

As shown in bold above, claim 1 is not directed to a structure but, rather, to a **method** of programming a read-only memory cell. Claim 1 is not an attempt by the Applicant to claim a product but, rather, as the claim clearly states, is directed to a method of programming a read-only memory cell. Accordingly, Applicant respectfully asserts claim 1 is not a product-by-process claim.

OK

As detailed in a previous response (filed June 2, 1999), Miller does not teach or suggest a method of programming a cell that includes, *inter alia*, a step of contradoping only a first region of the source as recited in claim 1. As is clear from Figs. 2 and 3 of Miller, both the source and the drain are contradoped in Miller (see e.g., regions 26 and 28). Thus, the Examiner has not made a prima facie case of anticipation, and the rejection under 35 U.S.C. §102(b) should be withdrawn.

not OK

Claims 3-4

Claim 3 is directed to a memory, in integrated circuit form. The memory includes a plurality of transistors that form a corresponding plurality of memory cells. Each transistor has a drain and a source separated by a conduction channel. A first transistor forms a corresponding programmed cell, the conduction channel and a first region of the source of the first transistor directly contact each other, the first region is contradoped so that the first region and the conduction channel are of the same doping type, and the drain is not contradoped.

Miller does not teach or suggest a memory that has a first region of the source and the conduction channel directly contacting each other. The Office Action states that the source is shown by reference numeral 26 in Fig. 2 of Miller. (Applicant would like to respectfully point out that Miller actually states that the source is labeled as 18 and that reference numeral 26 refers to a n- gap region which is never called a source. In fact, Miller explicitly states that the n- gap region 26 is used "[t]o connect the source and drain to the gate (see col. 3, lines 38-46) However, for the purposes of this response only, Applicant will refer to the n- gap 26 as the "source" in order to facilitate understanding between the Applicant and the Examiner.)

Contrary to claim 3, this "source" does not directly contact the conduction channel 16. In fact, the "source" is separated from the conduction channel 16 by the p-type halo region 29. If the Examiner is including the p-type halo 29 in his definition of the "source" Applicant would like to respectfully point out that the p-type halo region contacts both the source 18 and the drain

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20. Because this region contacts both the source and the drain Applicant is unaware as to how this p-type halo may be considered part of the "source."

In view of the foregoing, Applicant respectfully asserts that claim 3 is patentable over Miller and requests that the rejection thereto under 35 U.S.C. §102(b) be reconsidered and withdrawn.

Claim 4 depends from claim 3 and is patentable for at least the same reasons.

Claims 5-6

Claim 5 is directed a memory including a plurality of cells formed in a substrate of a first doping type. The plurality of cells includes a first programmed cell having a drain of a second doping type, a conduction channel of the first doping type, and a source. The source includes a first region of the first doping type directly contacting the conduction channel and the first region is the only region that is contradoped.

not OK As discussed above, Miller fails to teach or suggest a source that includes a first region of a first doping type that directly contacting the conduction channel as recited in claim 5.

Accordingly, Applicant respectfully requests that the rejection of claim 5 under 35 U.S.C. §102(b) be reconsidered and withdrawn.

Claim 6 depends claim 5 and is patentable for at least the same reasons.

Claims 7-9

not OK Claim 7 is directed to a memory that includes a plurality of cells formed in a substrate of a first doping type. The plurality of cells includes a first programmed cell having a drain of a second doping type, a conduction channel of the first doping type, and a source including non-conducting means directly contacting the conduction channel and being contradoped for providing a non-conducting response in the conduction channel to prevent a transistor effect from occurring between the drain and the source when predetermined voltages are applied to the first programmed cell to read the first programmed cell. The non-conducting means are the only region that is contradoped.

not OK Claim 7 includes a limitation that the source includes non-conducting means directly contact the conduction channel. As discussed above, Miller does not teach or suggest non-conducting means that are part of the source and directly contact the conduction channel.

Accordingly, Applicant respectfully asserts that claim 7 is patentable over Miller and requests that the rejection thereto under 35 U.S.C. §102(b) be reconsidered and withdrawn.

Claims 8-9 depend from claim 7 and are patentable for at least the same reasons.

Claims 10-12

Claim 10 is directed to a method for programming a cell that includes a step of forming, in a substrate of a first doping type, a first transistor having a drain of a second doping type, and a source of the second doping type, such that a portion of the substrate forms a conduction channel between the source and the drain. The method also includes a step of contradoping only a first region of the source which directly contacts the conduction channel to make the first transistor degenerate.

OK
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Similar to claim 1, claim 10 is directed to a method of programming a cell, not to a structure. Accordingly, claim 10 is not a product-by-process claim. The Office Action did not consider or point out in Miller any teaching or suggestion of a step of contradoping only a first region of the source which directly contacts the conduction channel. Thus, the Examiner has not made a prima facie case of anticipation, and the rejection under 35 U.S.C. §102(b) should be withdrawn.

Claims 11-12 depend from claim 10 and are patentable for at least the same reasons.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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